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**From:** Juliane Brown [Ex. 6 - Personal Privacy]  
**Sent:** 9/10/2018 7:50:13 PM  
**To:** Libelo, Laurence [Libelo.Laurence@epa.gov]  
**Subject:** Re: Brignole et al., 2003, AR 226-1369?

Hi Laurence,

(I took Chris off this string to help keep his email a little more sane.)

I have been in fairly regular contact with Bill Doucette throughout this project. Based on his work on the uptake of different organic compounds in xylem sap, we designed a pressure chamber vessel here at Mines to study PFAS uptake into the plant xylem sap. He's been a great help!

I believe that I have all of John Washington's work published in the peer-reviewed literature, but I wouldn't have any other data/results that may have been limited to unpublished reports (if these exist).

As for the published work surrounding Parkersburg, WV, I'm not sure.... I am familiar with the C8 documents, but not all of their details, and I did not find any specific plant uptake studies in those documents. The Steenland et al. 2009 EHP paper mentions consumption of local vegetables as a factor for predicting PFOA levels in the community surrounding the plant; however, I could not find any specific plant uptake studies that occurred there. Is there a specific paper or series of papers (or reports) to which you are referring?

Just when I think I've amassed most of the relevant literature, I come across something else either new or buried in the literature that I had not yet seen! I've also not dug into the old pesticide literature -- there's far too much literature on PFAS these days for me to keep up on!

Kind regards, Juliane

On Mon, Sep 10, 2018 at 5:06 AM Libelo, Laurence <Libelo.Laurence@epa.gov> wrote:  
Juliana,

It is not easy to get info out of the EPA.

I am happy to hear that you are looking at plant uptake. I have been concerned about plant accumulation since seeing the soil contamination in AFFF sites and Decatur AL. I have been trying to talk Bill Doucette and the phytoremediation guys to look at fluorochemicals for 15 years!

I assume you have seen the DuPont uptake study from the Parkersburg MOU. And John Washington's early stuff from Decatur.

I think there is some earlier plant data from the old pesticide literature for sulfluoramid and the surfactant adjuvants but have not found it. Have you seen this?

Laurence

Sent from my iPhone

On Sep 9, 2018, at 5:57 PM, Juliane Brown [Ex. 6 - Personal Privacy] wrote:

Dear Laurence,

Thank you for these reports. I'm a PhD candidate working with Chris at Mines. I tried to find the AR 226-1369 report (including in the EPA document archives) without success. In response to your email, I've specifically searched EWG and Columbia University's library system without any luck, so if you find the links via EWG or Columbia to this and/or related documents, I'd appreciate the links! The AR 226-1369 report is one of the early and original plant uptake studies on PFOS. Plant uptake of short-chain and novel PFAS and the associated human health risks from consuming plants irrigated with AFFF-impacted water is my current area of study, so I really appreciate you sending it our way!

Kind regards, Juliane

On Sat, Sep 8, 2018 at 12:26 PM Libelo, Laurence <[Libelo.Laurence@epa.gov](mailto:Libelo.Laurence@epa.gov)> wrote:  
Here is the file -AR226-1369. And because I typed it in wrong the first here is also AR226-0139 which may be of interest.

AR226 is not online. EWG used to have most of it on their web site. I am not sure if they still do. Columbia is uploading EVERYTHING so it might be there.

You can get it on CDs from the public info center.

Laurence

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**From:** Libelo, Laurence  
**Sent:** Friday, September 7, 2018 7:47:19 PM  
**To:** Chris Higgins  
**Cc:** Lindstrom, Andrew; Gaines, Linda; Juliane Brown  
**Subject:** Re: Brignole et al., 2003, AR 226-1369?

I will pull it out and send it.

Laurence

Sent from my iPhone

On Sep 7, 2018, at 5:18 PM, Chris Higgins <[Ex. 6 - Personal Privacy](#)> wrote:

Hi folks,

Would any of you know how to access the AR226 docket nowadays? I can't seem to find the link.

Thanks!

Chris

----- Forwarded message -----

**From:** Juliane Brown <[Ex. 6 - Personal Privacy](#)>  
**Date:** Fri, Sep 7, 2018, 2:46 PM  
**Subject:** Brignole et al., 2003, AR 226-1369?  
**To:** Christopher Higgins <[Ex. 6 - Personal Privacy](#)>

Hi Chris,

Here's the reference I'm trying to find.

Thanks, Juliane

Brignole, A. J., Porch, J. R., Krueger, H. O. and van Hoven, R. L. (2003).  
PFOS: A toxicity test to determine the effects of the test substance on seedling  
emergence of seven species of plants. Wildlife International Ltd. Submitted to  
3M Corporation. Environmental Laboratory Project Number U2723, United  
States Environmental Protection Agency. AR 226-1369

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